

U.S. EPA Update on Reducing Emissions from Diesel Marine Vessels



**CARB Maritime Air Quality Technical
Working Group**

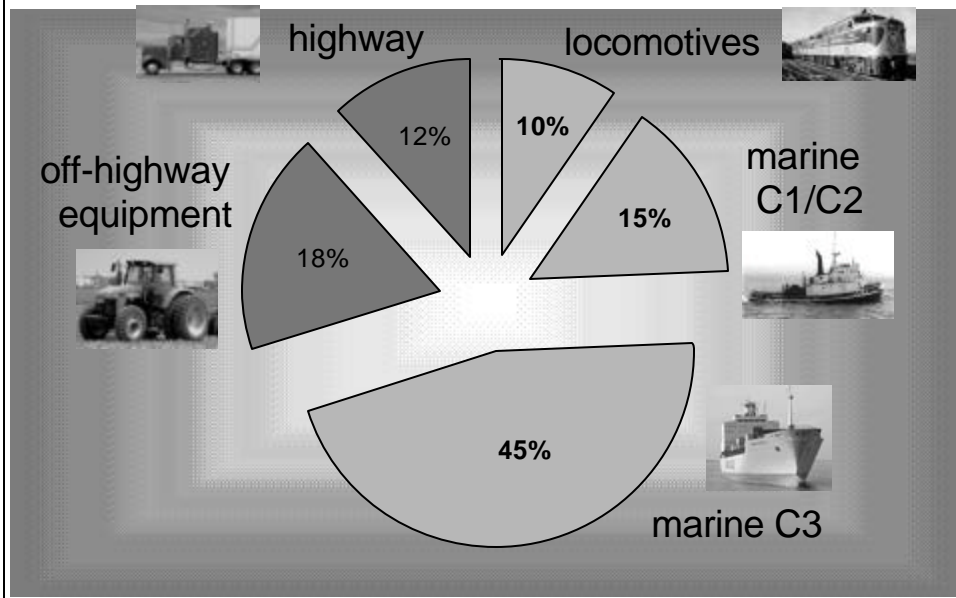
May 17, 2005

Roxanne Johnson, US EPA

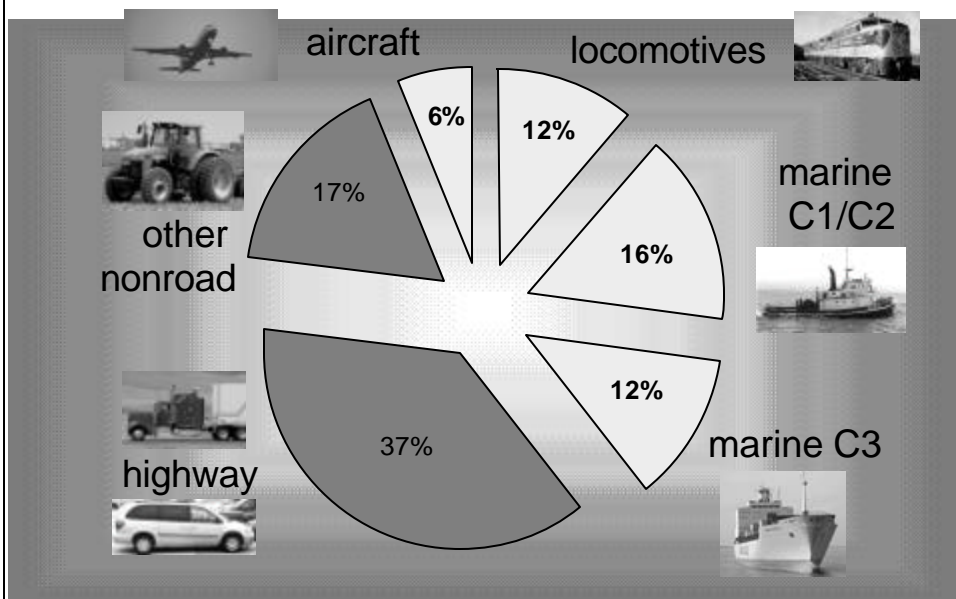
US EPA Update

- Diesel Marine Engine Regulatory Programs
 - C1, C2, and C3
- IMO Update
 - Annex VI of MARPOL
 - US Ratification
- SOx Emission Control Areas (SECAs)
- Voluntary Efforts

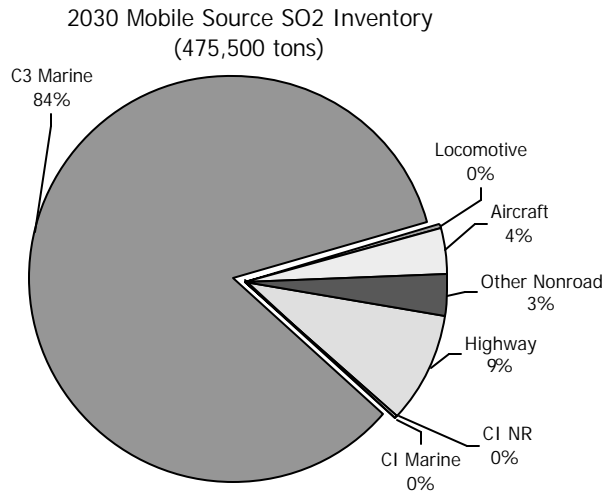
PM_{2.5} from Diesel Engines in 2030



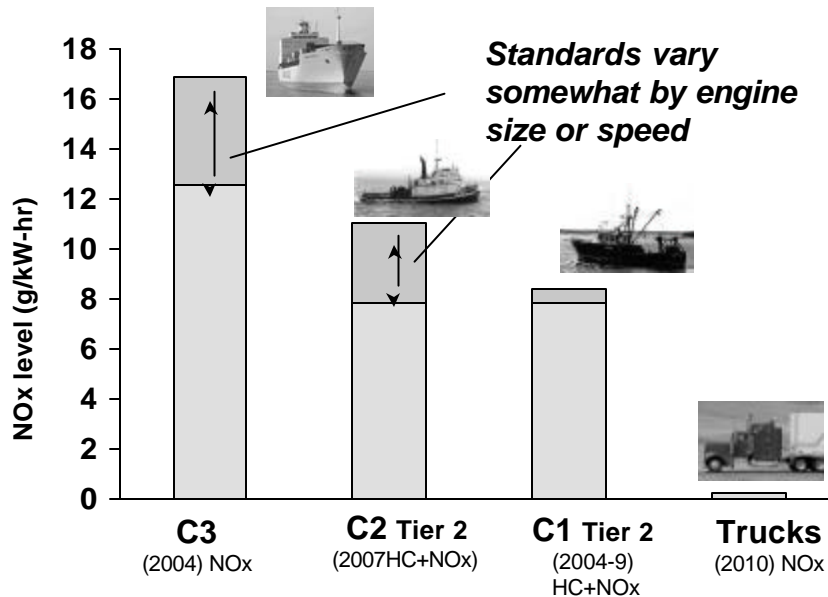
Mobile Source NO_x in 2030



Vessel SOx Emissions in the U.S.



Current Emission Standards



Future Emission Standards: C1, C2

- Advance Notice of Proposed Rulemaking
 - May 11, 2004: 69 FR 39276
 - Standards to target NO_x and PM aftertreatment
 - Pattern after highway and nonroad programs
 - Up to 90% reduction from previous tier
 - Leverage plentiful supply of highway/nonroad 15 ppm fuel
 - Standards could be implemented as early as 2011



Future Emission Standards: C3

- MARPOL Annex VI standards reflect engine-based control technologies
- Water-based technologies and exhaust aftertreatment can reduce emissions considerably:
 - 50% to 90% reductions are possible
- Future activities
 - Work through IMO toward a new tier of international emission standards for marine diesel engines
 - National rule to be finalized by mid-2007

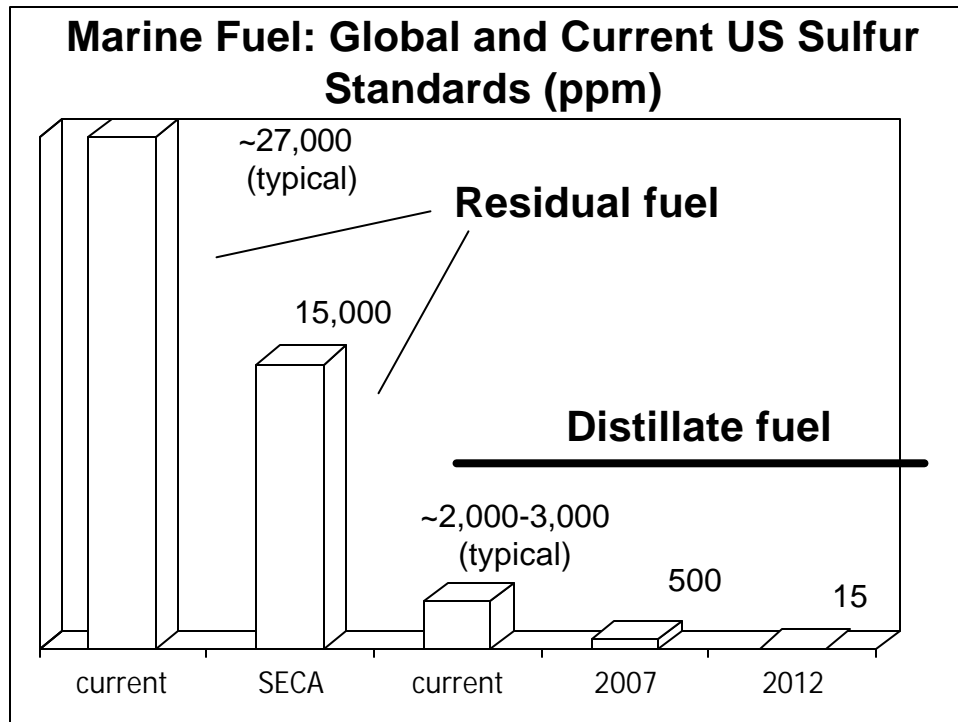


IMO Update

- **Annex VI enters into force May 19, 2005**
 - **22 Countries representing 62% of the world's tonnage have ratified to date**
 - **U.S. vessels that go to ports of countries that have been ratified may be asked to demonstrate compliance**
 - **Coast Guard has a process for issuing statements of voluntary compliance for ships**
 - **We have been issuing statements of voluntary compliance for engines since 2000**

U.S. Ratification Process

- **The Administration submitted the Treaty to the Senate in May 2003**
- **The Senate Foreign Relations Committee has signaled their interest in acting favorably on the Treaty, but wants to see implementing legislation first.**
- **Difficult to predict how long it will take for both the legislation and ratification package to clear the Hill**



North American SECAs

- Investigation of SECA designation for North American Coastal Areas
 - Impacts of SO_x emissions
 - Contribution of ships
 - Existing land-based measures
 - Technological feasibility
 - Economic impacts
- Is similar to a rulemaking effort
- Collaborative effort: States, Canada, Mexico

Timing for North America SECAs

- Spring 2007 Submission to IMO
- SECA Meetings with key states
- EPA Prepares Application (6/06)

Voluntary Efforts

- **Clean Ports USA**
 - National Diesel Emissions Reduction Programs
- **Voluntary Clean Diesel and Retrofit Program**
 - \$5 million granted since 2000
- **SmartWayTransport Partnership**
 - \$1.7 million granted in 2004
 - \$5 million appropriated in 2005
 - For More Information:
www.epa.gov/otaq/retrofit/ports.htm
www.cleanfleetsusa.net
- **EPA Grants & Funding**
 - <http://www.epa.gov/air/grants/>

Conclusions

- **EPA is developing a program to achieve large PM and NOx reductions from locomotives and marine diesels that burn distillate fuel.**
- **We will address emissions from all marine diesel engines, from small auxiliary engines to propulsion engines on OGVs**
- **We plan to work with the IMO for a new tier of international standards for engines and fuels**
- **Stakeholder input will be important as we develop our programs**